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CLAIMS

- 1.- An assay device for detecting the genetic predisposition to respond to treatment of antitumor drugs useful for lung cancer based on the detection of polymorphisms and/or
5 loss of heterozygosity in the ERCC2/XPD repair gene, the locus of which is defined by GenBank sequences X52221 and X52222, characterized by comprising at least one of the oligonucleotide probes selected among SEQ ID NO: 1 and SEQ ID NO: 2; or SEQ ID NO: 5 and SEQ ID NO: 6.
- 10 2.- An assay device, characterized in that the probes are used as human DNA sample mapping primers in polymerase chain reaction (PCR) reaction technique.
- 3.- An assay device, characterized in that the probes are used as human DNA sample mapping primers in automatic sequencing
15 technique.
- 4.- An assay device according to any of claims 1 to 3, characterized by detecting Lys751Gln or Asp312Asn polymorphisms, respectively, for each pair of primers.
- 5.- An assay device according to any of claims 1 to 4,
20 characterized in that the antitumor drug is a combination of cisplatin with a second antitumor compound selected among gemcitabine, vinorelbine or docetaxel.
- 6.- The oligonucleotide primers for detecting the genetic predisposition to the response to antitumor drugs, characterized
25 by the sequences represented by SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 5 and SEQ ID NO: 6.
- 7.- The oligonucleotides according to claim 6, characterized in that the antitumor drug is a combination of cisplatin with a second antitumor compound selected among
30 gemcitabine, vinorelbine or docetaxel.
- 8.- The use as primers for detecting the genetic predisposition to the response to antitumor drugs of the oligonucleotides represented by SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 7 or SEQ ID NO: 8.
- 35 9.- The use according to claim 3, characterized in that the antitumor drug is a combination of cisplatin with a second antitumor compound selected among gemcitabine, vinorelbine or

docetaxel.